REMARKS

The present Amendment amends claims 1-7 and 12 and cancels claims 8-11 and 13-19. Therefore, the present application has pending claims 1-7 and 12.

Claims 1-7 and 12 stand rejected under 35 USC §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regards as their invention. Various amendments were made throughout claims 1-7 and 12 to bring them into conformity with the requirements of 35 USC §112, second paragraph. Therefore, this rejection is overcome and should be withdrawn.

Claims 1 and 2 stand rejected under 35 USC §102(a) as being anticipated by Qiong (article entitled "Active Query Caching for Database Web Servers"); claim 3 stands rejected under 35 USC §103(a) as being unpatentable over Qiong in view of Rigney (article entitled "Remote Authentication Dial in User Service (Radius)" and further in view of Barish (article entitled "World Wide Web Caching: Trends and Techniques"); and claims 4-7 and 12 stand rejected under 35 USC §103(a) as being unpatentable over Qiong in view of Barish in view of Landsman (U.S. Patent No. 6,314,451) and further in view of an alleged Official Notice. These rejections are traversed for the following reasons. Applicants submit that the features of the present invention as now more clearly recited in claims 1-7 and 12 are not taught or suggested by Qiong, Rigney, Barish, Landsman or the alleged Official Notice whether taken individually or in combination with each other as suggested by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw these rejections.

The features of the present invention as now more clearly recited in the claims are not taught or suggested by Qiong, Rigney, Barish, Landsman or the alleged Official Notice whether taken individually or in combination with each other as suggested by the Examiner.

The present invention is directed to a service system having a plurality of server apparatuses, a plurality of client apparatuses and a plurality of data processing relay apparatuses for relaying data communications between the server apparatuses and the client apparatuses.

According to the present invention, each server apparatus includes request receiving means for receiving a service request issued by a client apparatus wherein the service request requests data provided by the server apparatus, extended data producing means for producing extended data including data requested in the service request and data processing control information indicating how to process to data and means for transmitting the extended data as a response to the service request.

Further, according to the present invention the data processing relay apparatus includes means for receiving the service request from the client apparatus to transfer the service request to the server apparatus and receiving the response from the server apparatus, a data processing unit for determining if the received response is the extended data or not and if the response to the extended data, processing the extended data in accordance with the data processing control information included in the extended data to produce process result and means for

transmitting the process result data processed by the data processing unit to the client apparatus as response data to the service request.

The above described features of the present invention now more clearly recited in the claims are not taught or suggested by Qiong, Rigney, Barish, Landsman or the alleged Official Notice whether taken individually or in combination with each other as suggested by the Examiner.

Qiong teaches a method and apparatus for performing active query caching for database web servers. Qiong teaches that an enhanced proxy server is modified to form an active proxy so as to enable active query caching. As per Qiong, the server sends the proxy a query applet which can process simple queries at the proxy. This teaching of Qiong enables the proxy server to share the database for overflow workload as well as to reduce the network traffic. Qiong teaches that content is sent out in response to a request. The content attached with the data in Qiong is sent with an applet by the server such that the server can migrate some tasks to the proxy. The applet is a kind of program for processing the data. The proxy has the program execution means and executes the received applet. These teachings of Qiong are entirely different from the features of the present invention as recited in the claims.

In the present invention, data processing control information indicating how to process the data is sent with the original data by the server. The control information is a part of the extended data. The proxy (data processing relay apparatus) includes the data processing unit, and the data processing unit executes the built-in program with referring to the control information. The present invention is different from

Qiong particularly with regard to the in content sent with the data and in having a data processing unit.

Processing flow of Qiong, in which the proxy has a cache to store the query, data and applet, is illustrated in the attached Sketch Fig. A and is described as follows:

1. The client sends the request (request1 describing a query) to the proxy.
2. The proxy forwards the request to the server, since no data has been stored in the cache of the proxy.
3. The server sends the data and the applet as a response.
4. The proxy stores the request query and the response data and applet in the own cache.
5. The proxy forwards the response data to the client.
6. The (other) client sends the next request (request2) to the proxy.
7. The proxy compares the cached request1 with the received request2.
8. If the contents of the cached request1 is identical with the contents of the received request2, the proxy sends the cached data to the client.
9. If the range of the request2 is wider than that of the request 1, that is, the cached data is not sufficient to answer to the request2, the proxy forwards the request2 to the server.
10. If the range of the request 2 is narrower than that of the request1, that is, the cached data can be used to answer to the request2, the proxy executes the applet cached with the data to narrow down the data.
11. The proxy sends the narrowed-down data to the client.

In the attached Sketch Fig. B the processing flow of the present invention, in which the proxy also has a cache. Fig. B is similar to Figs. 7 and 8 of the present application. The processing flow of the present invention is as follows:

1. The client sends the request (request 1 describing a query) to the proxy.
2. The proxy forwards the request to the server, since no data has been stored in the cache of the proxy.
3. The server sends the data with the control information as a response.
4. The proxy stores the information (such as URL) of the query and the response data and control information in the own cache.
5. The proxy processes the received data using the received control information.
6. The proxy forwards the processed data to the client.
7. The (other) client sends the next request (request2) to the proxy.
8. The proxy compares the cached request1 with the received request2.
9. If the request2 is not identical with the request1, the proxy forwards the request2 to the server.
10. If the contents of the cached request1 is identical with the contents of the cached request2, the proxy processes the cached data using the cache control information.
11. The proxy sends the processed data to the client.

In Qiong, the proxy does not use the applet for the first request, and the proxy

uses the applet for the subsequent requests to process the data which is already cached in the proxy.

In the present invention, the proxy always processes the data using the control information regardless of having cached the data or not, that is, the proxy performs the data processing for all requests including a first request. Even if the data is not allowed to be cached, the above mentioned steps 1 to 6 are performed. The present invention is different from Qiong in data processing timing in the proxy.

A customization function, assumes that plural proxies access one server and that clients belonging to respective proxies send the same query request. In Qiong, all proxies receive the same data and the same applet from the server as a response and all clients belonging to respective proxies receive the same response, since the applet works in the same way on the different proxies.

In the present invention, respective proxies may include different data processing units. Even if the plural proxies receive the same data and the same control information as a response, the respective proxies process the data differently using the different data processing units. Figs. 12, 14, 19, 28 and 30 of the present application show the variations of the data processing unit. Further, the proxy can process the data differently depending on each client. If the server sends the same response, the result received at the client may be different depending on the proxy and further on the client. That is, the response may be customized. See page 6, line 22 through page 7, line 19 of the specification. Accordingly, the present

invention is entirely different from Qiong particularly with regard to the in proxy-dependent and/or client-dependent customization function.

Barish describes almost the same features as Qiong. Thus, Barish suffers from the same deficiencies relative to the features of the present invention as recited in the claims.

Rigney show the user authentication scheme. In Rigney, the user management server (RADIUS server) performs the user authentication as described on page 5, second to last paragraph to page 9, last paragraph. Thus, Rigney suffers from the same deficiencies relative to the features of the present invention as recited in the claims.

In the present invention, the proxy performs the user authentication by comparing the user information included in the request sent from the client with the user information obtained form the user management server. Further, the server sends the data and the control information relating to the user (the individual control information) as the response to the request. The proxy processes the data sent from the server using the individual control information and the user information. By such scheme, the clients may receive the different data or may be charged differently, that is, the client-dependent customization function.

Landsman shows the idea to update data stored in the browser disk cache. Advertising information is updated and the updated advertisement is displayed on the web-page through the applets. Landsman is silent on updating data depending on the data receiving user. Thus, Landsman suffers from the same deficiencies relative to the features of the present invention as recited in the claims.

With respect to the alleged Official Notice the Examiner states that it is a notoriously well known fact of charging the online users for the information requested by them to be downloaded to their client apparatuses. Applicants acknowledge this Official Notice but traverse it and request that the Examiner supply a reference which discloses this alleged well-known fact. In any event, this alleged well know fact does not supply any of the above described deficiencies of the other references of record used in the rejections of the claims.

Thus, none of the references of record particularly Qiong, Rigney, Barish, Landsman and the alleged Official Notice teach or suggest the features of the present invention as now more clearly recited in the claims whether said references are taken individually or in combination with each other. Accordingly, reconsideration and withdrawal of the above described rejections of the claims under 35 USC §102(a) and 35 USC §103(a) is respectfully requested.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references utilized in the rejection of claims 1-7 and 12.

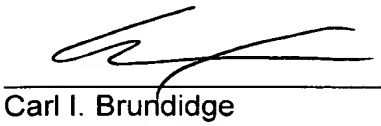
In view of the foregoing amendments and remarks, applicants submit that claims 1-7 and 12 are in condition for allowance. Accordingly, early allowance of claims 1-7 and 12 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to

the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (500.40508X00).

Respectfully submitted,

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.



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